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# SECTION K

## USER SERVICE ANALYSIS

TRANSPORTATION PROBLEMS: Congestion on arterials / collectors (through multiple jurisdictions)			
USER SERVICE	VERY APPLICABLE	SOMEWHAT APPLICABLE	NOT APPLICABLE
Pre-Trip Travel Information	S		
En-Route Travel Information	S		
Route Guidance	S		
Ride Matching and Reservation	S		
Traveler Services Information		S	
Traffic Control	S		
Incident Management	S		
Travel Demand Management	S		
Public Transportation Management		M	
En-Route Transit Information		M	
Personalized Public Transit		M	
Public Travel Security		M	
Electronic Payment Services		M	
Commercial Vehicle Electronic Clearance		M	
Automated Roadside Safety Inspection		M	
On-board Safety Monitoring		M	
Commercial Vehicle Administrative Processes		M	
Hazardous Material incident Management		M	
Commercial Fleet Management		M	
Emergency Notificaiton and Personal Security		M	
Emergency Vehicle Management		M	
Longitudinal Collision Avoidance		L	
Lateral Collision Avoidance		L	
Intersection Collision Avoidance		L	
Vision Enhancement for Crash Avoidance		L	
Safety Readiness		M	
Pre-Crash Restraint Deployment		L	
Automated Vehicle Ooperation		L	

S=Short Term (0-5 years)

M=Medium Term (5-10 years)

L=Long Term (>10 years)

## USER SERVICE OBJECTIVES / PERFORMANCE CRITERIA

PROBLEM:	Congestion on arterials/collectors (through multiple jurisdictions)
SYSTEM OBJECTIVES:	Improve system operation and coordination between jurisdictions
USER SERVICES:	<ol style="list-style-type: none"><li>1. Traffic control</li><li>2. Route guidance</li><li>3. En-route travel information</li><li>4. Incident management</li><li>5. Pre-trip travel information</li><li>6. Ride matching and reservation</li><li>7. Travel demand management</li></ol>
USER SERVICE OBJECTIVES:	<ol style="list-style-type: none"><li>1. Increase level of service</li><li>2. Reduce travel time / delay</li><li>3. Decrease accidents</li><li>4. Reduce user costs</li><li>5. Reduce vehicle emissions, (starts/stops)</li><li>6. Reduce congestion index</li></ol>
PERFORMANCE CRITERIA:	<ol style="list-style-type: none"><li>1. Level of Service</li><li>2. Average travel time, delay (sec/vehicle)</li><li>3. Number of stops and duration (sec/vehicle)</li><li>4. CO<sub>2</sub> and NO<sub>x</sub> levels (parts/m)</li><li>5. Accident rates (acc/mvm)</li><li>6. Cost of time and operations (cost/veh)</li></ol>

TRANSPORTATION PROBLEMS: Congestion due to lack of motorist Information and guidance			
USER SERVICE	VERY APPLICABLE	SOMEWHAT APPLICABLE	NOT APPLICABLE
Pm-Trip Travel Information	S		
En-Route Travel Information	S		
Route Guidance	S		
Ride Matching and Reservation		S	
Traveler Services Information	S		
Traffic Control		S	
Incident Management		S	
Travel Demand Management		S	
Public Transportation Management		M	
En-Route Transit Information	M		
Personalized Public Transit		M	
Public Travel Security		M	
Electronic Payment Services		M	
Commercial Vehicle Electronic Clearance		M	
Automated Roadside Safety Inspection		M	
On-board Safety Monitoring		M	
Commercial Vehicle Administrative Processes		M	
Hazardous Material Incident Management		M	
Commercial Fleet Management		M	
Emergency Notificaiton and Personal Security	M		
Emergency Vehicle Management		M	
Longitudinal Collision Avoidance	L		
Lateral Collision Avoidance	L		
Intersection Collision Avoidance	L		
Vision Enhancement for Crash Avoidance	L		
Safety Readiness	M		
Pre-Crash Restraint Deployment		L	
Automated Vehicle Operation		L	

S=Short Term (0-5 years)

M=Medium Term (5-10 years)

L=Long Term (> 10 years)

## USER SERVICE OBJECTIVES / PERFORMANCE CRITERIA

PROBLEM:	Congestion due to lack of motorists (commuter, tourists, commercial vehicle) information and guidance
SYSTEM OBJECTIVES:	Improve motorists advisory and information facilities/services
USER SERVICES/ TRAVEL DEMAND MANAGEMENT:	<ol style="list-style-type: none"><li>1. Traveler service information</li><li>2. Pre-trip travel information</li><li>3. En-route travel information</li><li>4. Route guidance</li><li>5. En-route transit information</li><li>6. Emergency notification and personal security</li><li>7. Longitudinal collision avoidance</li><li>8. Lateral collision avoidance</li><li>9. Intersection collision avoidance</li><li>10. Vision enhancement for crash avoidance</li><li>11. Safety readiness</li></ol>
USER SERVICE OBJECTIVES:	<ol style="list-style-type: none"><li>1. Inform drivers on roadway conditions, incidents, alternative routes, delays and parking availability.</li><li>2. Guide motorist to alternate routes, special events, parking lots/ area, exits, public buildings, shopping areas, restaurants, auto maintenance facilities, airports, military bases, train stations and other facilities</li></ol>
PERFORMANCE CRITERIA:	<ol style="list-style-type: none"><li>1. Average delay due to lack of sufficient information - sec/veh</li><li>2. Decrease in ADT</li><li>3. Cost savings to motorists (user) (time, fuel) cost/veh</li></ol>

<b>TRANSPORTATION PROBLEMS: Congestion due to incidents</b>			
<b>USER SERVICE</b>	<b>VERY APPLICABLE</b>	<b>SOMEWHAT APPLICABLE</b>	<b>NOT APPLICABLE</b>
Pre-Trip Travel Information		S	
En-Route Travel Information		S	
Route Guidance	S		
Ride Matching and Reservation		S	
Traveler Services Information		S	
Traffic Control		S	
Incident Management	S		
Travel Demand Management		S	
Public Transportation Management		M	
En-Route Transit Information		M	
Personalized Public Transit		M	
Public Travel Security		M	
Electronic Payment Services		M	
Commercial Vehicle Electronic Clearance		M	
Automated Roadside Safety Inspection		M	
On-board Safety Monitoring		M	
Commercial Vehicle Administrative Processes		M	
Hazardous Material Incident Management	M		
Commercial Fleet Management	M		
Emergency Notification and Personal Security	M		
Emergency Vehicle Management	M		
Longitudinal Collision Avoidance		L	
Lateral Collision Avoidance		L	
Intersection Collision Avoidance		L	
Vision Enhancement for Crash Avoidance		L	
Safety Readiness		M	
Pre-Crash Restraint Deployment		L	
Automated Vehicle Operation		L	

S=Short Term (0-5 years)

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L=Long Term (>10 years)

## USER SERVICE OBJECTIVES / PERFORMANCE CRITERIA

PROBLEM:	Congestion due to incidents ..
SYSTEM OBJECTIVES:	Reduce impact of incidents
USER SERVICES:	<ol style="list-style-type: none"><li>1. Incident management</li><li>2. Emergency vehicle management</li><li>3. Emergency notification and personal safety</li><li>4. Route guidance</li><li>5. Commercial fleet management</li><li>6. Hazardous material incident management</li></ol>
USER SERVICE OBJECTIVES:	<ol style="list-style-type: none"><li>1. Reduce incident duration</li><li>2. Divert drivers away from incidents to alternate routes or modes. Postpone or eliminate trips if feasible</li><li>3. Route drivers to proper detour / alternate routes</li></ol>
PERFORMANCE CRITERIA:	<ol style="list-style-type: none"><li>1. Average detection time Average response time Average removal time</li><li>2. Travel time / delay before and after incident - (set-veh)</li><li>3. Accident rate decrease (acc/mum)</li></ol>

TRANSPORTATION PROBLEMS! Underused mass transportation facilities (all modes)			
USER SERVICE	VERY APPLICABLE	SOMEWHAT APPLICABLE	NOT APPLICABLE
Pre-Trip Travel Information	S		
En-Route Travel Information		S	
Route Guidance		S	
Ride Matching and Reservation		S	
Traveler Services Information		S	
Traffic Control		S	
Incident Management		S	
Travel Demand Management	S		
Public Transportation Management	M		
En-Route Transit Information	M		
Personalized Public Transit	M		
Public Travel Security	M		
Electronic Payment Services	M		
Commercial Vehicle Electronic Clearance		M	
Automated Roadside Safety Inspection			X
On-board Safety Monitoring		M	
Commercial Vehicle Administrative Processes			X
Hazardous Material Incident Management		M	
Commercial Fleet Management		M	
Emergency Notificaiton and Personal Security		M	
Emergency Vehicle Management		M	
Longitudinal Collision Avoidance		L	
Lateral Collision Avoidance		L	
Intersection Collision Avoidance		L	
Vision Enhancement for Crash Avoidance		L	
Safety Readiness		M	
Pre-Crash Restraint Deployment		L	
Automated Vehicle Operation		L	

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## USER SERVICE OBJECTIVES / **PERFORMANCE CRITERIA**

PROBLEM:	Underused mass transportation facilities (all alternative modes)
SYSTEM OBJECTIVES:	Increase use of mass transportation as alternative to automobile
USER SERVICES:	<ol style="list-style-type: none"><li>1. Public transportation management</li><li>2. Travel demand management</li><li>3. En-route transit information</li><li>4. Personalized public transit</li><li>5. Public travel security</li><li>6. Electronic payment services</li><li>7. Pm-trip travel information</li></ol>
USER SERVICE OBJECTIVES:	<ol style="list-style-type: none"><li>1. Increase use of existing transit buses</li><li>2. Provide transit routes where desired</li><li>3. Increase transit usage during roadway peak hour demand</li><li>4. Provide desired service time, location, duration of trip transit headways, mode of travel alternatives (fixed rail, ride-share, vanpool, carpool, HOV lanes, bus priority lanes)</li><li>5. Provide secure, safety facilities</li><li>6. Make payment quick and easy</li></ol>
PERFORMANCE CRITERIA:	<ol style="list-style-type: none"><li>1. Transit ridership increase</li><li>2. Person trips by mode changes</li><li>3. ADT on roadways, percent reduction (lowering)</li><li>4. Survey riders</li><li>5. Payment times/delay reduction (sec/veh)</li></ol>

TRANSPORTATION PROBLEMS: Non-attainment of air quality			
USER SERVICE	VERY APPLICABLE	SOMEWHAT APPLICABLE	NOT APPLICABLE
Pre-Trip Travel Information	S		
En-Route Travel Information		S	
Route Guidance		S	
Ride Matching and Reservation	S		
Traveler Services Information		S	
Traffic Control	S		
Incident Management	S		
Travel Demand Management	S		
Public Transportation Management	M		
En-Route Transit Information		M	
Personalized Public Transit		M	
Public Travel Security		M	
Electronic Payment Services		M	
Commercial Vehicle Electronic Clearance		M	
Automated Roadside Safety Inspection		M	
On-board Safety Monitoring		M	
Commercial Vehicle Administrative Processes		M	
Hazardous Material Incident Management		M	
Commercial Fleet Management	M		
Emergency Notification and Personal Security		M	
Emergency Vehicle Management		M	
Longitudinal Collision Avoidance		L	
Lateral Collision Avoidance		L	
Intersection Collision Avoidance		L	
Vision Enhancement for Crash Avoidance		L	
Safety Readiness		M	
Pre-Crash Restraint Deployment		L	
Automated Vehicle Operation		L	

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## USER SERVICE OBJECTIVES / PERFORMANCE CRITERIA

PROBLEM:	Non-attainment of air quality
SYSTEM OBJECTIVES:	Attainment of air quality standards. Maintain air quality attainment
USER SERVICES:	<ol style="list-style-type: none"><li>1. Travel demand management</li><li>2. Incident management</li><li>3. Public transportation management</li><li>4. Ride matching and reservations</li><li>5. Traffic control</li><li>6. Pm-trip travel information</li><li>7. Commercial fleet management</li></ol>
USER SERVICE OBJECTIVES:	<ol style="list-style-type: none"><li>1. Reduces traffic on roadways</li><li>2. Reduce length and amount of trips</li><li>3. Reduce idling time</li><li>4. Reduce number of start ups</li><li>5. Increase transit usage</li><li>6. Increase auto occupancy</li><li>7. Reduce delay/travel time</li></ol>
PERFORMANCE CRITERIA:	<ol style="list-style-type: none"><li>1. Vehicle emission level</li><li>2. Reduction of CO<sub>2</sub>, NO, from air (ppm)</li><li>3. Average daily transit ridership</li></ol>

TRANSPORTATION PROBLEMS: Congestion and accidents due to roadway' construction

<b>USER SERVICE</b>	<b>VERY APPLICABLE</b>	<b>SOMEWHAT APPLICABLE</b>	<b>NOT APPLICABLE</b>
Pre-Trip Travel Information	S		
En-Route Travel Information	S		
Route Guidance	S		
Ride Matching and Reservation		S	
Traveler Services Information	S		
Traffic Control	S		
Incident Management	S		
Travel Demand Management		S	
Public Transportation Management		M	
En-Route Transit Information		M	
Personalized Public Transit		M	
Public Travel Security		M	
Electronic Payment Services		M	
Commercial Vehicle Electronic Clearance		M	
Automated Roadside Safety Inspection		M	
On-board Safety Monitoring		M	
Commercial Vehicle Administrative Processes		M	
Hazardous Material Incident Management		M	
Commercial Fleet Management		M	
Emergency Notificaiton and Personal Security		M	
Emergency Vehicle Management		M	
Longitudinal Collision Avoidance	L		
Lateral Collision Avoidance	L		
Intersection Collision Avoidance		L	
Vision Enhancement for Crash Avoidance		L	
Safety Readiness		M	
Pre-Crash Restraint Deployment		L	
Automated Vehicle Operation		L	

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## USER SERVICE OBJECTIVES / PERFORMANCE CRITERIA

PROBLEM:	Congestion and accidents due to roadway construction
SYSTEM OBJECTIVES:	Reduce impact of congestion, improve motorist information services and guidance, reduce accidents related to vehicles and workers.
USER SERVICES	<ol style="list-style-type: none"><li>1. Pre-trip travel information</li><li>2. En-route travel information</li><li>3. Route guidance</li><li>4. Traveler services information</li><li>5. Incident management</li><li>6. Traffic control</li><li>7. Longitudinal collision avoidance</li><li>8. Lateral collision avoidance</li></ol>
USER SERVICE OBJECTIVES:	<ol style="list-style-type: none"><li>1. Inform drivers on construction areas / locations and expected delay</li><li>2. Inform drivers on alternate routes</li><li>3. Guide drivers to alternate/detour routes</li><li>4. Inform/guide drivers that are planning trips through area of locations, alternate routes and detours</li></ol>
PERFORMANCE CRITERIA:	<ol style="list-style-type: none"><li>1. Average delay time (sec/veh)</li><li>2. Alternate route traffic increase</li><li>3. Emission reduction (PPM)</li><li>4. Cost savings to motorists (time, fuel) (cost/veh)</li></ol>

TRANSPORTATION PROBLEMS: Congestion due to <b>lack</b> of capacity on freeways, ramps, and intersections			
<b>USER SERVICE</b>	<b>VERY APPLICABLE</b>	<b>SOMEWHAT APPLICABLE</b>	<b>NOT APPLICABLE</b>
Pre-Trip Travel Information	S		
En-Route Travel Information	S		
Route Guidance	S		
Ride Matching and Reservation	S		
Traveler Services Information	S		
Traffic Control	S		
Incident Management	S		
Travel Demand Management	S		
Public Transportation Management	M		
En-Route Transit Information		M	
Personalized Public Transit		M	
Public Travel Security		M	
Electronic Payment Services		M	
Commercial Vehicle Electronic Clearance		M	
Automated Roadside Safety Inspection		M	
On-board Safety Monitoring		M	
Commercial Vehicle Administrative Processes		M	
Hazardous Material Incident Management		M	
Commercial Fleet Management	M		
Emergency Notificaiton and Personal Security		M	
Emergency Vehicle Management		M	
Longitudinal Collision Avoidance		L	
Lateral Collision Avoidance		L	
Intersection Collision Avoidance		L	
Vision Enhancement for Crash Avoidance		L	
Safety Readiness		M	
Pre-Crash Restraint Deployment		L	
Automated Vehicle Operation		L	

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## USER SERVICE OBJECTIVES / PERFORMANCE CRITERIA

PROBLEM:	Congestion due to lack of capacity on freeways, ramps, and interchanges
SYSTEM OBJECTIVES:	Improve system performance
USER SERVICES:	<ol style="list-style-type: none"><li>1. Incident management</li><li>2. Route guidance</li><li>3. Pre-trip travel information</li><li>4. Traffic control</li><li>5. Traveler services information</li><li>6. Travel demand management</li><li>7. Ride matching and reservation</li><li>8. Public transportation management</li><li>9. Commercial fleet management</li><li>10. En-route travel information</li><li>11. Construct additional lanes/facilities</li></ol>
USER SERVICE OBJECTIVES:	<ol style="list-style-type: none"><li>1. Reduce average delay time</li><li>2. Reduce ADT</li><li>3. Reduce peak hour volumes</li><li>4. Reduce trucks in through lanes or on grades</li><li>5. Increase transit ridership</li><li>6. Restrict lanes from CBD</li><li>7. Reduce accident rates</li></ol>
PERFORMANCE CRITERIA:	<ol style="list-style-type: none"><li>1. Average delay time (set-veh)</li><li>2. Increase average speeds (mph)</li><li>3. Truck volume in CBD (%)</li><li>4. Accident rates (ACC/MVM)</li><li>5. Level of service/congestion index</li></ol>

TRANSPORTATION PROBLEMS: Congestion and accidents due to improper <b>roadway planning, design, operations and</b> maintenance			
USER SERVICE	VERY APPLICABLE	SOMEWHAT APPLICABLE	NOT APPLICABLE
IPre-Trip Travel Information		S	
IEn-Route Travel Information		S	
IRoute Guidance	S		
IRide Matching and Reservation		S	
Traveler Services Information	S		
Traffic Control	S		
Incident Management	S		
Travel Demand Management	S		
IPublic Transportation Management	M		
IIn-Route Transit Information		M	
IPersonalized Public Transit		M	
iPublic Travel Security		M	
iElectronic Payment Services		M	
iCommercial Vehicle Electronic Clearance		M	
IAutomated Roadside Safety Inspection		M	
IIn-board Safety Monitoring		M	
(Commercial Vehicle Administrative Processes		M	
iHazardous Material Incident Management		M	
(Commercial Fleet Management	M		
IEmergency Notificaiton and Personal Security		M	
iEmergency Vehicle Management		M	
iLongitudinal Collision Avoidance		L	
iLateral Collision Avoidance		L	
iIntersection Collision Avoidance		L	
Vision Enhancement for Crash Avoidance		L	
:safety Readiness		M	
Pre-crash Restraint Deployment		L	
/Automated Vehicle Ooperation		L	

S=Short Term (0-5 years)

M=Medium Term (5-10 years)

L=Long Term (> 10 years)



## USER SERVICE OBJECTIVES / PERFORMANCE CRITERIA

PROBLEM:	Congestion and accidents due to improper roadway planning, design, operations and maintenance ...
SYSTEM OBJECTIVES:	Improve transportation system planning, design, operations and maintenance
USER SERVICES:	<ol style="list-style-type: none"><li>1. Traffic control</li><li>2. Travel demand management</li><li>3. Route guidance</li><li>4. Traveler services information</li><li>5. Public Transportation Management</li><li>6. Safety readiness</li><li>7. Commercial fleet management</li><li>8. Incident management</li></ol>
USER SERVICE OBJECTIVES:	<ol style="list-style-type: none"><li>1. Reduction in delay (sec/veh), travel time (sec/veh)</li><li>2. Reduction in accident rates (acc/mvm) on existing roadways</li><li>3. Reduction in VMT (veh/mile)</li><li>4. Reduction in stops/starts (number stops per vehicle mile)</li><li>5. Reduction in emissions (parts/m)</li></ol>
PERFORMANCE CRITERIA:	<ol style="list-style-type: none"><li>1. Average vehicle delay (sec/veh)</li><li>2. Average travel time (sec/veh)</li><li>3. Total VMT (system-wide)</li><li>4. Total stops/delay (no. stops/veh/mile)</li><li>5. CO<sub>2</sub> and NO<sub>x</sub> parts per million-system wide-(tons)</li></ol>

TRANSPORTATION PROBLEMS: Congestion due to lack of planning and operations for special events			
USER SERVICE	VERY APPLICABLE	SOMEWHAT APPLICABLE	NOT APPLICABLE
Pre-Trip Travel Information	S		
En-Route Travel Information	S		
Route Guidance	S		
Ride Matching and Reservation		S	
Traveler Services Information	S		
Traffic Control	S		
Incident Management	S		
Travel Demand Management	S		
Public Transportation Management	M		
En-Route Transit Information		M	
Personalized Public Transit		M	
Public Travel Security		M	
Electronic Payment Services			X
Commercial Vehicle Electronic Clearance			X
Automated Roadside Safety Inspection			X
On-board Safety Monitoring			X
Commercial Vehicle Administrative Processes			X
Hazardous Material Incident Management		M	
Commercial fleet Management		M	
Emergency Notification and Personal Security		M	
Emergency Vehicle Management		M	
Longitudinal Collision Avoidance		L	
Lateral Collision Avoidance		L	
Intersection Collision Avoidance		L	
Vision Enhancement for Crash Avoidance		L	
Safety Readiness		M	
Pre-Crash Restraint Deployment		L	
Automated Vehicle Operation		L	

S=Short Term (0-5 years)

M=Medium Term (5-10 years)

L=Long Term (> 10 years)

## USER SERVICE OBJECTIVES / PERFORMANCE CRITERIA

PROBLEM:	Congestion due to lack of planning and operations for special events
SYSTEM OBJECTIVES:	Reduce the impact of congestion on roadway
USER SERVICES:	<ol style="list-style-type: none"><li>1. Incident management</li><li>2. Pre-trip travel information</li><li>3. En-route travel information</li><li>4. Route guidance</li><li>5. Traveler services information</li><li>6. Traffic control</li><li>7. Public Transportation management</li><li>8. Travel demand management</li></ol>
USER SERVICE OBJECTIVES:	<ol style="list-style-type: none"><li>1. Reduction in delay/travel time (sec-veh)</li><li>2. Reduction in accidents/incidents</li><li>3. Reduction in VMT</li><li>4. Reduction in vehicle emissions</li></ol>
PERFORMANCE CRITERIA:	<ol style="list-style-type: none"><li>1. Average vehicle delay (sec/veh)</li><li>2. Average travel time</li><li>3. Total VMT</li><li>4. CO<sub>2</sub> and NO<sub>x</sub> parts/million reduction</li></ol>

TRANSPORTATION PROBLEMS: Congestion and accidents due to motorist lack of education/improper habits and lack of traffic law enforcement and regulations			
USER SERVICE	VERY APPLICABLE	SOMEWHAT APPLICABLE	NOT APPLICABLE
Pre-Trip Travel Information	S		
En-Route Travel Information	S		
Route Guidance	S		
Ride Matching and Reservation		S	
Traveler Services Information	S		
Traffic Control	S		
Incident Management	S		
Travel Demand Management	S		
Public Transportation Management	M		
En-Route Transit Information		M	
Personalized Public Transit		M	
Public Travel Security			X
Electronic Payment Services			X
Commercial Vehicle Electronic Clearance			X
Automated Roadside Safety Inspection			X
On-board Safety Monitoring			X
Commercial Vehicle Administrative Processes			X
Hazardous Material Incident Management		M	
Commercial Fleet Management		M	
Emergency Notification and Personal Security		M	
Emergency Vehicle Management		M	
Longitudinal Collision Avoidance		L	
Lateral Collision Avoidance		L	
Intersection Collision Avoidance		L	
Vision Enhancement for Crash Avoidance		L	
Safety Readiness		M	
Pre-Crash Restraint Deployment		L	
Automated Vehicle Operation		L	

S=Short Term (0-5 years)

M=Medium Term (5-10 years)

L=Long Term (> 10 years)

## USER SERVICE OBJECTIVES / PERFORMANCE CRITERIA

PROBLEM:	Congestion and accidents due to motorists' lack of education/ improper driving habits and lack of traffic law enforcement and regulations
SYSTEM OBJECTIVES:	Reduce congestion and' accidents through user education and traffic law enforcement and enactment of laws
USER SERVICES:	<ol style="list-style-type: none"><li>1. Pre-trip travel information</li><li>2. En-route travel information</li><li>3. Route guidance</li><li>4. Travel services information</li><li>5. Traffic control</li><li>6. Incident management</li><li>7. Travel demand management</li><li>8. Public transportation management</li></ol>
USER SERVICE OBJECTIVES:	<ol style="list-style-type: none"><li>1. Inclusion of public/user education on proper driving techniques and laws in each user service</li><li>2. Inclusion of traffic law enforcement officials training at each user service</li><li>3. Review of laws affecting each user service that would result in enhancement of user schedule</li></ol>
PERFORMANCE CRITERIA:	<ol style="list-style-type: none"><li>1. Average system delay sec/veh</li><li>2. Total system travel time/stops (sec/veh)</li><li>3. Accident rates acc/mvm and accident types</li><li>4. Average user cost (cost/veh)</li></ol>

**TRANSPORTATION PROBLEMS: Congestion due to lack of alternative routes and access to major public/private commercial developments**

<b>USER SERVICE</b>	<b>VERY APPLICABLE</b>	<b>SOMEWHAT APPLICABLE</b>	<b>NOT APPLICABLE</b>
Pre-Trip Travel Information	S		
En-Route Travel Information		S	
Route Guidance	S		
Ride Matching and Reservation	S		
Traveler Services Information		S	
Traffic Control	S		
Incident Management	S		
Travel Demand Management	S		
Public Transportation Management	M		
En-Route Transit Information		M	
Personalized Public Transit		M	
Public Travel Security		M	
Electronic Payment Services			X
Commercial Vehicle Electronic Clearance			X
Automated Roadside Safety Inspection			X
On-board Safety Monitoring			X
Commercial Vehicle Administrative Processes			X
Hazardous Material Incident Management			X
Commercial Fleet Management			X
Emergency Notificaiton and Personal Security		M	
Emergency Vehicle Management		M	
Longitudinal Collision Avoidance		L	
Lateral Collision Avoidance		L	
Intersection Collision Avoidance		L	
Vision Enhancement for Crash Avoidance		L	
Safety Readiness		M	
Pre-Crash Restraint Deployment		L	
Automated Vehicle Operation		L	

S=Short Term (0-5 years)

M=Medium Term (5-10 years)

L=Long Term (> 10 years)

## USER SERVICE OBJECTIVES / PERFORMANCE CRITERIA

PROBLEM:	Congestion due to lack of alternative routes and access to major public/private commercial development
SYSTEM OBJECTIVES:	Reduction in congestion
USER SERVICES:	<ol style="list-style-type: none"><li>1. Pre-travel travel</li><li>2. Route guidance</li><li>3. Ridematching and reservation</li><li>4. Traffic control</li><li>5. Incident management</li><li>6. Travel demand management</li><li>7. Public transportation management</li></ol>
USER SERVICE OBJECTIVES:	<ol style="list-style-type: none"><li>1. Reduce congestion by reducing demand and trips on existing facilities</li><li>2. Reduce congestion through enhanced operation</li><li>3. Reduce impact of incidents through management of incidents and measures to reduce accidents</li><li>4. Reduce congestion by providing the user with more choices that are efficient, safe, and, responsive</li></ol>
PERFORMANCE CRITERIA:	<ol style="list-style-type: none"><li>1. Average system delay (sec/veh)</li><li>2. Average system decrease in travel time (sec/veh) (stops/veh)</li><li>3. Accident rates (acc/mvm)</li><li>4. Ridership (mass transit)</li></ol>

<b>TRANSPORTATION PROBLEMS: Congestion due to lack of policies, planning, design and operations for truck and commercial vehicle traffic</b>			
<b>USER SERVICE</b>	<b>VERY APPLICABLE</b>	<b>SOMEWHAT APPLICABLE</b>	<b>NOT APPLICABLE</b>
Pre-Trip Travel Information			X
En-Route Travel Information		S	
Route Guidance	S		
Ride Matching and Reservation		S	
Traveler Services Information		S	
Traffic Control	S		X
Incident Management			X
Travel Demand Management			X
Public Transportation Management			X
En-Route Transit Information			X
Personalized Public Transit			X
Public Travel Security			X
Electronic Payment Services		M	
Commercial Vehicle Electronic Clearance	M		
Automated Roadside Safety Inspection		M	
On-board Safety Monitoring		M	
Commercial Vehicle Administrative Processes	M		
Hazardous Material Incident Management		M	
Commercial Fleet Management	M		
Emergency Notificaiton and Personal Security		M	
Emergency Vehicle Management			X
Longitudinal Collision Avoidance		L	
Lateral Collision Avoidance		L	
Intersection Collision Avoidance		L	
Vision Enhancement for Crash Avoidance		L	
Safety Readiness		M	
Pre-Crash Restraint Deployment		L	
Automated Vehicle Operation		L	

S=Short Term (0-5 years)

M=Medium Term (5-10 years)

L=Long Term (>10 years)



## USER SERVICE OBJECTIVES / PERFORMANCE CRITERIA

PROBLEM:	Congestion due to lack of policies, planning, design and operations for truck and commercial vehicle traffic
SYSTEM OBJECTIVES:	Reduce impact on congestion
USER SERVICES:	<ol style="list-style-type: none"><li>1. Commercial fleet management</li><li>2. Incident management</li><li>3. Route guidance</li><li>4. Commercial vehicle electronic clearance</li><li>5. Commercial vehicle administrative process</li></ol>
USER SERVICE OBJECTIVES:	<ol style="list-style-type: none"><li>1. Reduction of incidents/accidents; and congestion due to commercial vehicles</li><li>2. Reduction of truck volumes on arterial roadways</li><li>3. Increase capacity, reduction of delay and travel time for automobiles and mass transportation vehicles</li><li>4. Increase efficiency of commercial vehicle operations</li></ol>
PERFORMANCE CRITERIA:	<ol style="list-style-type: none"><li>1. Average vehicle delay (sec/veh) system capacity (v/c), average travel time (sec/veh)</li><li>2. Truck percentages % of ADT</li><li>3. Accident rates and types involving trucks</li></ol>